CASE STUDY

Mrs. Parker

Mrs. Parker is an outgoing 81-year-old Caucasian woman who lives in an assisted living facility. She has come in with her son for a routine follow-up visit. Her son reports that she was just seen in the hospital's emergency room a week ago because she fell when she was getting out of the shower. She fell backwards and bumped the back of her head against the wall.

Her son remarks that in the past year his mother has had "too many falls to count." Mrs. Parker agrees that she falls a lot, but she's pessimistic. "Old people fall, that's just how it is," she says.

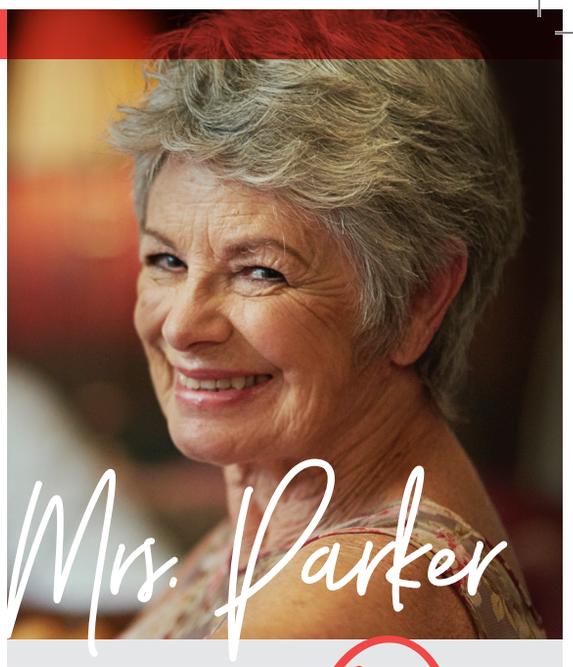
Mrs. Parker has a history of hypertension, hyperlipidemia, diabetes, coronary artery disease, and congestive heart failure.

Self-Assessment

Mrs. Parker's completed *Stay Independent* brochure reveals she has circled "Yes" for the following statements:

- ☑ I have fallen in the last 6 months.
- ☑ I use or have been advised to use a cane or walker to get around safely.
- ☑ I am worried about falling.
- ☑ I need to push with my hands to stand up from a chair.
- ☑ I have some trouble stepping up onto a curb.
- ☑ I often have to rush to the toilet.
- ☑ I take medicine to help me sleep or improve my mood.

Her responses result in a risk score of 9.



Risk score: 9

ASSESSMENT

Gait, Strength, and Balance

(Completed and documented by the medical assistant)

Timed Up and Go:

18 seconds with her rollator walker

Gait: wide-based with minimal hip extension and arm swing; markedly kyphotic posture

30-Second Chair Stand:

Unable to rise without arms

Unable to rise from the chair without using her arms to push herself up

4-Stage Balance Test:

10 seconds side-by-side; 4 seconds semi-tandem stance

Able to stand with her feet side-by-side for 10 seconds, but in a semi-tandem stance loses her balance after 4 seconds

Medical History

Mrs. Parker reports that she used to walk "just fine," but about two years ago, she began falling for no apparent reason. Sometimes she'll trip on a carpet, other times she just loses her balance when she's walking or turning. Once, she fell off a chair face first into a wall. Another time, she rolled out of bed.

Mrs. Parker has fallen indoors both during the day and at night. Sometimes, she's fallen at night when she's gotten up to void. She sleeps deeply, but is restless. So for the past eight years, Mrs. Parker has been taking clonazepam to help her sleep.

For the past two years, she has been using a rollator walker. Before that, she had a front-wheeled walker, but couldn't get used to it. She used to go to the Silver Sneakers exercise classes at her local gym, but stopped going about five years ago when she developed numbness in her feet and knee pain. She used to enjoy walking, but reports that she hardly ever goes outside now because she's so afraid of falling and breaking her hip.

PROBLEM LIST

- Type 2 diabetes
- Coronary artery disease status post myocardial infarction
- Paroxysmal atrial fibrillation
- Congestive heart failure
- Hypertension
- Hypertriglyceridemia
- Depression
- Osteoarthritis of hips and knees
- Macular degeneration
- Rotator cuff syndrome
- Sciatica
- Diverticulosis
- Osteopenia
- Gastroesophageal reflux disease
- Cognitive disorder not otherwise specified

Medications

MEDICATION	DOSE	TIMING
Novolog	3 units subcutaneously	before meals and at bedtime
Lantus	20 units subcutaneously	at bedtime
Lisinopril	20 mg	daily
Metoprolol Succinate ER	200 mg	daily
Spironolactone	12.5 mg	daily
Furosemide	20 mg	daily
Potassium Chloride	20 mEq	daily
Digoxin	125 mcg	daily
Fluoxetine	40 mg	daily
Clonazepam	1 mg	at bedtime as needed for sleep
Atorvastatin	10 mg	at bedtime
Aspirin	81 mg	daily

Physical Exam

Constitutional	This is a frail, alert, elderly woman, very pleasant and in no apparent distress.
Vitals	Supine – 129/53, 59; Sitting – 103/40, 60; Standing – 101/51, 62. BMI 18.5.
Head	Contusion with resolving ecchymosis and swelling at the posterior occiput on the right side.
ENMT	Acuity wearing corrective lenses: 20/30 R, 20/70 L.
CV	Regular rate and rhythm normal S1/S2 without murmurs, rubs, or gallops.
Respiratory	Clear to auscultation throughout.
GI	Normal bowel tones, soft, non-tender, non-distended.
Musculoskeletal	UE/LE strength normal bilaterally. No knee joint laxity or joint swelling. Feet with diffuse clawing of toes.
Neurology	Alert and oriented x 3. Cranial nerves II-XII grossly intact.
Tone/abnormal movements	Tone normal throughout. She has diminished sensation andproprioception in both feet. Deep tendon reflexes are normal and symmetric.
Psych	PHQ-2 depression screen = 6/6. Cognitive screen 0/3 items recalled.

REVIEW OF SYMPTOMS

- *Lack of energy*
- *Wears bifocals*
- *Hearing difficulty subjectively, passed hearing tests*
- *Frequent bladder infections*
- *Incontinence of urine*
- *Urinary frequency*
- *Nocturia 4 times a night*
- *Balance problems when walking*
- *Memory problems*
- *Orthopedists have recommended knee replacements but she has declined. She wears braces on her knees to manage the pain and reports these help*
- *Afraid of falling*
- *Difficulty concentrating*
- *Feeling blue*

Identified Fall Risk Factors

Mrs. Parker's answers on the *Stay Independent* brochure and the results of the assessment tests indicate decreased lower body strength, serious impairments in her gait and balance, and a fear of falling.

- Her orthostatic blood pressure results indicate postural hypotension. She is currently taking four medications that can lower blood pressure: lisinopril, metoprolol, spironolactone, and furosemide.
- She is cognitively impaired, and her depressive symptoms are not controlled despite prescription of antidepressant. She is taking two psychoactive medications: fluoxetine and clonazepam. She is also taking other medications that may need to be evaluated.
- Other fall risk factors are: postural hypotension, vision issues (depth perception difficulty and blurry vision) despite corrective lenses, foot problems—including diminished sensation in both feet, incontinence, urinary frequency, and nocturia >2 times a night.

Fall Prevention Recommendations

1. Attempt to stop, switch, or reduce psychoactive medications, medications affecting blood pressure, and evaluate for digoxin toxicity.
2. Consider non-pharmacologic options for symptom and condition management.
3. Implement strategies to address urinary symptoms, diminished lower extremity sensation, and depression.
4. Recommend at least 800 IU of vitamin D as a daily supplement for fall risk reduction.
5. Counsel on self-management of orthostatic hypotension (get up slowly, do ankle pumps and hand clenches for a minute before standing, do not walk if dizzy), and provide the patient brochure, *Postural Hypotension: What it is and How to Manage it.*
6. Discuss fall prevention, tailoring suggestions based on the "Stages of Change" model. Emphasize that many falls can be prevented.
7. Discuss home modifications such as removing tripping hazards, and installing grab bars in her bathroom. Provide the CDC fall prevention brochures, *What YOU Can Do to Prevent Falls* and *Check for Safety*.
8. Refer to a physical therapist for pain and gait assessment to increase leg strength and improve balance. Provide instruction on how to use the rollator walker most effectively.
9. Refer to an occupational therapist to conduct a comprehensive assessment to identify appropriate home modifications, and to provide education to reduce her chances of falling.
10. Refer to a podiatrist for foot exam and prescription/customized footwear.

CDC's STEADI tools and resources can help you screen, assess, and intervene to reduce your patient's fall risk. For more information, visit www.cdc.gov/steadi